

### **Abstract**

A tunable optical device for adding or dropping one or more channels in a wavelength division multiplexing communication system is disclosed. The tunable optical device comprises one or more filters, wherein at least one filter comprises (a) one  
5 or more elastimers and (b) one or more gratings. An elastimer is a polymer that expands and contracts with a change in a voltage applied across the polymer or when a certain wavelength of light is diffracted from or transmitted through the polymer.